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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,176	10/14/2003	Jy-Jen F. Sah	GP-304127	3787
7590	06/14/2005		EXAMINER	TRAN, DALENA
Leslie Hodges General Motors Corporation Legal Staff, Mail Code: 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			ART UNIT	PAPER NUMBER
			3661	
DATE MAILED: 06/14/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/686,176	SAH ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Dalena Tran	3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 06 April 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 12-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 12,13,18 and 19 is/are rejected.
- 7) Claim(s) 14-17 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/14/03</u>	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

**Notice to Applicant(s)**

1. This office action is responsive to the amendment filed on 4/6/05. As per request, claims 18-19 have been added. Claims 12-19 are pending.

The prior art submitted on 10/14/03 has been considered.

2. In response to the request for reconsideration of restriction requirement, the examiner does not agree with applicant that claim sets 1-7, and 12-19 are adequately linked to allow for search and examination together because: claims 1-7, disclose a method for exiting a two-clutch fixed ratio mode by incrementing a shift confidence factor and commanding the release of one of first and second clutches when shift confidence factor attains a predetermined threshold, classified in class 74, subclass 330. Claims 12-17, disclose a method for scheduling shifts from a fixed ratio mode to first and second modes comprising calculating a first signal, second signal, and third signal based on a desired and actual input member speed; based on a time rate of change of the first signal; and based on a time rate of change of an output member speed, classified in class 701, subclass 55. Therefore, this office action is examining to claims 12-19 only.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-13, and 18-19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrie (5,979,257) in view of Tabata et al. (5,833,570).

As per claim 18, Lawrie discloses a method for scheduling shifts from a fixed-ratio mode to first and second modes in an electrically variable transmission including an input member and an output member, first and second clutches, said first mode characterized by simultaneous first clutch application and second clutch release, second mode characterized by simultaneous first clutch release and second clutch application, fixed-ratio mode characterized by simultaneous first and second clutch applications wherein the transmission input member is mechanically coupled to the transmission output member through a predetermined fixed ratio (see columns 6-7, lines 49-18; and columns 8-9, lines 13-16), comprising: calculating a first signal as the difference between a desired input member speed and an actual input member speed (see column 14, lines 20-29); and scheduling shifts in accordance with shift confidence factors determined as functions of the first signal (see columns 14-15, lines 42-13; column 16, lines 18-48; column 18, lines 28-58; and columns 20-21, lines 24-45). Lawrie does not disclose a time rate of change of the first signal. However, Tabata et al. disclose calculating a second signal as the time rate of change of the first signal (see columns 20-21, lines 40-48), and scheduling shifts in accordance with shift confidence factors determined as functions of the second signal (see columns 22-23, lines 11-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Lawrie by combining calculating a second signal as the time rate of change of the first signal to control the shifting action of automatic transmission to improve accuracy and stability, and reduce a shift shock.

As per claim 19, Tabata et al. disclose the shift confidence factors are incremented as a function of the first signal and the second signal (see columns 23-24, lines 61-67); and shifts are scheduled when the shift confidence factors attain predetermined thresholds (see columns 26-27, lines 24-55).

As per claim 12, Lawrie does not disclose calculating a third signal. However, Tabata et al. disclose calculating a third signal as the time rate of change of an output member speed (see column 2, lines 28-58); and scheduling shifts in accordance with shift confidence factors determined as functions of the first, second and third signals (see columns 3-4, lines 32-63; and columns 29-30, lines 17-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Lawrie by combining calculating a third signal for accurately control the shifting schedule of the transmission.

As per claim 13, Lawrie discloses scheduling shifts into the first mode is in accordance with a first shift confidence factor and scheduling shifts into the second mode is in accordance with a second shift confidence factor (see columns 21-22, lines 46-67).

5. Claims 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

. Lawrie et al. (5,993,350)

. Lawrie et al. (6,006,620)

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Lawrie et al. (6,019,698)

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 571-272-6968. The examiner can normally be reached on M-F 6:30 AM-4:00 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner  
Dalena Tran



June 8, 2005